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SAVE METAL, UTILIZE PRODUCTION RESERVES IN SOVIET MACHINE TOOL INDUSTRY

DECREASE WEIGHT OF PIPE-PROCESSING MACHINES -- Minsk, Sovetskaya Belorussiya,
13 Jun 53

At the Tbilisi Machine Tool Building Plant imeni Kirov, production of a multiroller machine for straightening aluminum pipes has been started. In the process of designing the machine, its weight was cut almost in half, as compared with the original plan.

The Tbilisi machine tool builders have been very successful in decreasing the weight of machines with concurrent improvement in their quality. For example, the weight of a modernized machine tool for pipe threading has been decreased by 160 kilograms and its speed has been tripled.

The Division of the Chief Designer has completed plans for a new powerful machine tool for simultaneous two-sided trimming of gas pipes up to 820 millimeters in diameter. This is the heaviest machine tool to be produced at the enterprise. It weighs 55 tons.

NEW MACHINE TOOLS AND TECHNOLOGIES SAVE METAL -- Tbilisi, Zarya Vostoka,
30 Jun 53

Plans for a multiroller straightening machine for straightening aluminum pipes and round bars have been completed at the Design Division of the Tbilisi Machine Tool Building Plant imeni Kirov. Plans are now in progress for a new heavy machine tool for trimming and chamfering pipes. Pipes up to 824 millimeters in diameter and 12.3 meters long will be machined on it. The machine will be approximately 20 meters long and 62 tons in weight.

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Concurrently with the development of new types and models of machine tools, the designers have modernized Models 914B and 1983 pipe threading machines. For example, the maximum workpiece speed in the modernized Model 914M has been increased from 89 to 236 rpm and its weight decreased by 160 kilograms. The maximum size of pipes that can be machined on the modernized Model 1983M has been increased and the weight of the machine has been decreased by 400 kilograms.

The production of modernized machine tools is being facilitated by quick-acting attachments and tools for high-speed metal cutting. For the production of parts for the new Model 1983M alone, 100 various type-designations of attachments and 150 type-designations of special tools are being manufactured.

Mastering the production of the modernized pipe threading machines will take place in the third quarter 1953. Machine shop No 2 has manufactured parts for the new machine tools and their assembly will start at the beginning of July.

Design changes in the manufacture of screw-cutting lathes, the basic type of product put out by the plant, will effect a saving of 45 tons of cast iron per year: 17 tons by changing the design of one flange and 28 tons by redesigning the bed.

In the tool shop, a 2-year project in restoring shavers is nearing completion. The shaver is an expensive cutting tool used for precision and finishing operations. As a result of restoring worn-out shavers, the machine tool builders will be able to save 150,000 rubles in 1953.

SAVE METAL THROUGH NEW DESIGNS -- Kiev, Pravda Ukrainy, 5 Jun 53

It was formerly considered unwise to allow machine tool units to protrude beyond the bed to which they were fastened. In reanalyzing the function of the bed, designers at the Kiev Machine Tool and Automatics Plant imeni Gor'kiy have come to the conclusion that it is permissible for the units to overhang the bed. As a result, the length and width of the bed have been decreased and its weight has been reduced.

The beds of automatics and semiautomatics have many partitions which form compartments for the coolant, lubricant, and working liquid in the machine-tool hydraulic system. A more effective arrangement of the partitions and a decrease in their number has also allowed a reduction in the weight of the bed.

In the beds of older models, the oil duct was in the form of a cast channel. This complicated the design of the bed and added weight to it. Lightweight tubes have been substituted for carrying oil, and the thickness of the bed walls has been decreased from 25 millimeters to 16. As a result, a saving of 100 tons of cast iron per year will be made.

Because of the change in design, four machine-tool beds can now be made from the same quantity of cast iron formerly required for three beds.

The development of a screw conveyor for removing chips is an example of increasing the efficiency and decreasing the weight of automatics. The slot conveyor used formerly contained 934 parts, but the new screw conveyor has only 180 parts and weighs 400 kilograms less.

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On heavy four- and six-spindle automatics, the operator had to turn the gears by hand in setting up the machine tool. Now, a special electric motor does the work.

Signaling lamps have been installed on machine tools; these lamps indicate that the machine needs lubrication or that the bar has been spent. Spindle bearings have been replaced by new two-row roller bearings with a tapered internal hole. This makes it possible to regulate the radial play and to eliminate vibration during high-speed cutting.

Designers modernized the single-spindle pipe automatic, reducing its weight by 288 kilograms, and under the direction of Tereshchenko redesigned the heavy four-spindle automatic. As a result, the weight of the machine was decreased by 4,413 kilograms. A new heavy four-spindle semiautomatic, with all housings redesigned, was built on the basis of this machine. It weighs 3 tons less than the basic machine. The weight of a new six-spindle bar automatic has been decreased by 900 kilograms and its operating qualities have been improved.

In other machine tools, the substitution of high-strength cast iron parts for bronze parts has aided in saving nonferrous metal.

Recently a cooperative effort between the plant and the Kiev Polytechnical Institute has been set up. A. Farber, docent, is helping in the modernization of machine tools in connection with the application of power methods of cutting. M. Orlikov, Candidate of Technical Sciences, in cooperation with workers of the plant laboratory for testing machine tools, is doing research on the accuracy of machining parts on automatics.

USE HIDDEN RESERVES -- Moscow, Vechernyaya Moskva, 27 May 53

The Moscow Attachments Plant of the Ministry of Machine Building USSR completed the 1952 program on 20 December, exceeded the plan for decreasing the cost of production, and made a profit of 464,000 rubles in excess of plan.

However, in 1952, losses due to rejects cost the plant 212,000 rubles, losses suffered in the sale of goods, 65,000 rubles; and losses of the communal housing division reached 64,000 rubles.

Measures have been taken to eliminate rejects and utilize hidden reserves. For example, metal has been saved and rejects eliminated by developing a multi-tool head in cutting the spirals of disks for lathe chucks.

Reducing overhead expenditures has been a means of achieving considerable savings. For example, in 1952, this expenditure was 322 rubles per thousand rubles of gross-production costs. In 4 months of 1953, overhead expenditures have been reduced to 286 rubles per thousand. The hidden reserve lay in better organization of production and control. -- P. Khodorov, director, Moscow Attachments Plant

SUPPLY POOR-QUALITY CASTINGS -- Moscow, Moskovskaya Pravda, 16 Jun 53

In the first 4 months of 1953, the Moscow Stankolit Plant supplied the Moscow Attachments Plant with 121,000 rubles of poor-quality castings for lathe chucks. The defect was discovered after the parts had been machined.

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DECREASE LABOR CONSUMPTION IN MANUFACTURE OF BORING MACHINE -- Vil'nyus,
Sovetskaya Litva, 28 May 53

One of the most labor-consuming tasks in the manufacture of heavy boring machines produced by the Leningrad Plant imeni Sverdlov is the manufacture of racks. From 8 to 11 racks go into each machine tool. Solov'yev, one of the better lathe operators at the plant, employing high-speed methods, had been able to put out only two racks per shift.

By using a special attachment developed by him with the cooperation of V. Berezovsk, engineer, and A. Antonov, technologist, he was able to put out five racks in one shift. Not only has this innovation made it possible to increase labor productivity, but the racks are now cut with greater precision, as a result of which the time for the subsequent scraping operation has dropped to one third.

In utilizing production reserves, plant personnel have decreased the labor consumption in the manufacture of a series-produced boring machine by 220 hours, as compared with 1952.

WORN-OUT MACHINE TOOLS REPAIRED -- Tbilisi, Zarya Vostoka, 27 May 53

In 1953, the machine shop of the Tbilisi Stanok Plant has restored the following broken-down machine tools: two DIP-200 screw-cutting lathes for the Moscow Krasnyy Proletariy Plant imeni Yefremov, one Model 526 machine tool with the Saratov Gear Shaper Plant trademark, and one Model 514 gear slotter for the Khar'kov Light-Duty Unit-Type Machine Tool Plant. Model 514 is built by the Yegor'yevsk Komsomolets Machine Tool Plant, according to Moskovskaya Pravda of 19 March 1950

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